REMARKS

Reconsideration of this application in view of the above amendments and the remarks below is respectfully requested. Claims 1, 12, 13, 20-25, 30-33, 45, 46, 57, and 58 are amended. Claims 7-10, 26-29, 39-42, and 52-55 are cancelled. No claims are added. Hence, Claims 1-6, 11-13, 20-25, 30-38, 43-51, and 56-58 are pending in the application.

I. CLAIM OBJECTIONS

Claims 12, 13, 44, 45, 57 and 58 are objected to because of informalities. The claims have been amended to address this issue. Removal of the objection is respectfully requested.

II. REJECTIONS NOT BASED ON PRIOR ART

A. Rejections under 35 U.S.C. 112

Claims 1-13 and 20-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The rejection to Claims 7-10, 26-29, 39-42, and 52-55 is moot because these claims have been canceled. Reconsideration and removal of the rejection to Claims 1, 20, 33 and 46 are respectfully requested because these claims, as amended, comply with the enablement requirement. Other pending claims, by reason of dependency from Claims 1, 20, 33 and 46, satisfy the enablement requirement because the rejection was premised on the rejection to Claims 1, 20, 33 and 46. Removal of the rejection to these pending dependent claims is respectfully requested.

B. Rejections under 35 U.S.C. 101

Claims 20-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The rejection to Claims 26-29 is moot because these claims have been canceled. Claims 20-25 and 30-32 have been amended to address this issue. Removal of the rejection to these claims is respectfully requested.

III.   ISSUES RELATED TO ALLEGED PRIOR ART

    A.   ISSUES RELATED TO 35 U.S.C. 102(B)

Claims 1, 8, 20, 27, 33, 40, 46 and 53 are rejected under 35 U.S.C. 102(b) as allegedly anticipated by Soumiya, US005583857A (hereinafter "*Soumiya*"). The rejection to Claims 8, 27, 40 and 53 is moot because these claims have been canceled. The rejection to Claims 1, 20, 33, and 46 is respectfully traversed.

Independent Claim 1

Claim 1 is directed to a method of determining an amount of bandwidth needed on a link, and recites:

> receiving a grade of service (GoS) factor and a quality of service (QoS) factor, wherein the GoS factor specifies a maximum call blocking probability for said link and the QoS factor specifies a maximum packet loss probability for said link;
> determining, for each of one or more amounts of bandwidth, a plurality of state probabilities based on the GoS factor and a plurality of marginal packet loss probabilities based on the QoS factor, wherein said determining is performed based on user behavior and traffic characteristics;
> determining said amount by selecting one of the one or more amounts of bandwidth using the plurality of state probabilities and the plurality of marginal packet loss probabilities; and
> storing said amount in memory.

It is respectfully submitted that a number of features in Claim 1 is not disclosed in the references cited in the Office Action. For example, Claim 1 features receiving **both a GoS factor and a QoS factor**, "wherein the GoS factor specifies a maximum call blocking probability for said link and the QoS factor specifies a maximum packet loss probability for said link." Furthermore, Claim 1 features determining, for each of one or more amounts of bandwidth, **both a plurality of state probabilities** based on the GoS factor **and a plurality of marginal packet loss probabilities**. Using the plurality of state probabilities and the plurality of marginal packet loss probabilities, the method of Claim 1 determines the amount of bandwidth on the link by selecting one of the one or more amounts of bandwidth.

Soumiya

Soumiya discloses a connection admission control method based on an average cell rate Ra and a peak cell rate Rp which are declared by a user (*see, e.g.,* Abstract). The *Soumiya* method is used to perform call admission control and to **allocate bandwidth** to calls admitted on a transmission line with a (fixed) physical bandwidth (e.g., in an ATM network). *See Soumiya* col. 7 lines 31-39. *Soumiya* does not perform any determination of an amount of bandwidth needed on such a transmission line. Rather, *Soumiya* only determines whether a new call should be accepted or rejected based on the physical bandwidth and the current allocation.

In particular, *Soumiya* is devoid of any disclosure about a GoS factor. Page 24 of the Office Action is correct in conceding that *Soumiya* does not explicitly disclose determining bandwidth based on a GoS factor.

Consequently, *Soumiya* does not and cannot disclose determining a plurality of state probabilities based on the GoS factor, as featured in Claim 1, since the GoS factor is missing in *Soumiya*.

Soumiya fails to disclose selecting the amount of bandwidth needed on the link using in the plurality of state probabilities and a plurality of marginal packet loss probabilities, as featured in Claim 1, since the plurality of state probabilities is missing in *Soumiya*.

Fodor

In rejecting Claim 7, the Office Action relies on Fodor, US006788646B1 (hereinafter "Fodor") to disclose that determining a bandwidth amount is based on a GoS factor (page 24 of the Office Action). This reliance on *Fodor* by the Office Action is misplaced because, like *Soumiya*, *Fodor* fails to show the features of Claim 1, as recited above.

Fodor discloses a method for sharing link bandwidth in a mixed rigid-elastic traffic environment. To share link bandwidth, the link capacity is given in *Fodor* as C

(col. 9 lines 2-6). According to *Foder*, the link capacity may be divided into a C_{COM} for rigid and elastic traffic and a C_{ELA} for elastic flows only. The passage of *Fodor* cited by the Office Action as disclosing that determining a bandwidth amount is based on a GoS factor is in fact only disclosing how bandwidths for the rigid traffic class and two elastic traffic classes (adaptive and non-adaptive, respectively sharing the link may be determined (col. 10, lines 1-36). There is no disclosure in *Fodor* that an **amount of bandwidth needed on a link** is determined relating to a GoS factor.

Furthermore, like *Soumiya*, *Fodor* fails to disclose determining a plurality of state probabilities based on the GoS factor, as featured in Claim 1.

Like *Soumiya*, *Fodor* also fails to disclose selecting the amount of bandwidth needed on the link using in the plurality of state probabilities and a plurality of marginal packet loss probabilities, as featured in Claim 1, since the plurality of state probabilities is missing in *Fodor*.

For at least the reasons set forth above, Claim 1 is patentable over *Soumiya*, as well as over *Soumiya* in view of *Fodor*. Removal of the rejection to Claim 1 is respectfully requested.

Claims 20, 33, and 46

Claims 20, 33, and 46 each recite similar features as those discussed above with respect to Claim 1. For example, Claim 33 is recited in a format allowable by 35 USC §112, and corresponds to method Claim 1 discussed above. Claim 20 is a computer readable storage medium claim that corresponds to method Claim 1. Claim 46 is an apparatus claim that corresponds to method Claim 1. Therefore, Claims 20, 33, and 46 are patentable for at least the same reasons discussed above as to Claim 1.

B.   ISSUES RELATED TO 35 U.S.C. 103(A)

Claims 2, 21, 34, and 47

Claims 2, 21, 34, and 47 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of Kraushaar, U.S. Patent No. 4,200,771 (hereinafter

"*Kraushaar*"). This rejection is respectfully traversed.

Claims 2, 21, 34, and 47 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Kraushaar*. Applicant submits that Claims 2, 21, 34 and 47 are patentable over *Soumiya* in view of *Kraushaar* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

Claims 3, 22, 35 and 48

Claims 3, 22, 35 and 48 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of Mashinksy, US20050111647A1 (hereinafter "*Mashinsky*"). This rejection is respectfully traversed.

Claims 3, 22, 35 and 48 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Mashinsky*. Applicant submits that Claims 3, 22, 35 and 48 are patentable over *Soumiya* in view of *Mashinsky* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

Claims 4, 23, 36 and 49

Claims 4, 23, 36 and 49 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of VanDervort, U.S. Patent No. 5,699,346 (hereinafter "*VanDervort*"). This rejection is respectfully traversed.

Claims 4, 23, 36 and 49 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *VanDervort*. Applicant submits that Claims 4, 23, 36 and 49 are patentable over *Soumiya* in view of *VanDervort* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

Claims 5, 24, 37 and 50

Claims 5, 24, 37 and 50 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of Depelteau, US006118764A (hereinafter

"Depelteau"). This rejection is respectfully traversed.

Claims 5, 24, 37 and 50 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Depelteau*. Applicant submits that Claims 5, 24, 37 and 50 are patentable over *Soumiya* in view of *Depelteau* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

Claims 6, 25, 38 and 51

Claims 6, 25, 38 and 51 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable our *Soumiya* in view of Takeuchi, US20040062256A1 (hereinafter *"Takeuchi"*). This rejection is respectfully traversed.

Claims 6, 25, 38 and 51 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Takeuchi*. Applicant submits that Claims 6, 25, 38 and 51 are patentable over *Soumiya* in view of *Takeuchi* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

Claims 7, 9, 26, 28, 39, 41, 52, 54 and 59

Claims 7, 9, 26, 28, 39, 41, 52, 54 and 59 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Soumiya in view of Fodor, US006788646B1 (hereinafter "Fodor"). The rejection to these claims is moot because the claims have been canceled.

Claims 11, 30, 43 and 56

Claims 11, 30, 43 and 56 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of Ishikawa, US005838671A (hereinafter *"Ishikawa"*). This rejection is respectfully traversed.

Claims 11, 30, 43 and 56 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Ishikawa*. Applicant submits that Claims 11, 30, 43 and 56 are patentable over *Soumiya* in view of *Ishikawa* for at least the reasons

given above in connection with Claim 1, 20, 33, or 46.

Claims 12, 31, 44, and 57

Claims 12, 31, 44, and 57 are rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Soumiya* in view of Morrison, US005854903A (hereinafter "*Morrison*"). This rejection is respectfully traversed.

Claims 12, 31, 44, and 57 depend from, and hence, incorporate all of the limitations of Claim 1, 20, 33, or 46. These claims also recite further limitations that render them patentable over *Soumiya* in view of *Morrison*. Applicant submits that Claims 12, 31, 44, and 57 are patentable over *Soumiya* in view of *Morrison* for at least the reasons given above in connection with Claim 1, 20, 33, or 46.

II. CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a check for the petition for extension of time fee and other applicable fees is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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